

Tabulated results from the paper
“Production of π^+ and K^+ mesons in argon-nucleus
interactions at 3.2 AGeV”

Table 1: (From figure 11) Rapidity (y) spectra ($d^2N/dydp_T$, $(\text{GeV}/c)^{-1}$) of π^+ mesons produced in Ar+C, Al, Cu, Sn, Pb interactions at a kinetic energy of 3.2 AGeV. The results are presented for different p_T bins. The first and second uncertainties are the statistical and systematic uncertainties, respectively.

ArC

p_T , GeV/c y	0.15	0.25	0.35	0.45	0.55
1.65	2.015±0.137± 0.063	1.268±0.069± 0.039	1.003±0.106± 0.076	0.405±0.059± 0.029	0.258±0.044± 0.021
1.90	1.742±0.099± 0.074	1.052±0.071± 0.045	0.596±0.087± 0.052	0.506±0.088± 0.049	0.119±0.029± 0.023
2.10	1.640±0.080± 0.033	0.981±0.068± 0.051	0.634±0.099± 0.060	0.238±0.042± 0.023	0.130±0.029± 0.014
2.30	1.420±0.066± 0.051	0.735±0.052± 0.025	0.280±0.030± 0.019	0.1275±0.0201± 0.0100	0.0321±0.0086± 0.0063
2.50	1.081±0.044± 0.028	0.3496±0.0211± 0.0097	0.1105±0.0156± 0.0093	0.0163±0.0113± 0.0067	0.0074±0.0116± 0.0091
2.70	0.654±0.029± 0.016	0.199±0.019± 0.012	0.0327±0.0182± 0.0083	0.058±0.054± 0.038	
2.90	0.435±0.030± 0.022	0.102±0.015± 0.011	0.072±0.031± 0.017		
3.10	0.2075±0.0223 ±0.0093	0.0516±0.0127± 0.0062			

ArAl

p_T , GeV/c y	0.15	0.25	0.35	0.45	0.55
1.65	6.345±0.194± 0.090	3.593±0.093± 0.053	2.428±0.144± 0.103	1.184±0.075± 0.038	0.533±0.044± 0.021
1.90	4.654±0.128± 0.082	2.793±0.089± 0.053	1.701±0.130± 0.098	0.808±0.069± 0.038	0.341±0.040± 0.032
2.10	3.498±0.083± 0.034	2.061±0.070± 0.030	1.303±0.099± 0.074	0.506±0.047± 0.028	0.189±0.030± 0.020
2.30	2.671±0.060± 0.025	1.343±0.051± 0.023	0.579±0.031± 0.024	0.276±0.024± 0.017	0.1088±0.0134± 0.0065
2.50	1.920±0.038± 0.022	0.829±0.023± 0.017	0.318±0.017± 0.012	0.1068±0.0155± 0.0076	0.0447±0.0167± 0.0068

2.70	1.181±0.025± 0.012	0.413±0.016± 0.013	0.1333±0.0122± 0.0073	0.097±0.037± 0.021	
2.90	0.5872±0.0195± 0.0082	0.1138±0.0113± 0.0088	0.0302±0.0142± 0.0098		
3.10	0.2301±0.0173± 0.0075	0.0485±0.0085± 0.0053		(4.6±2.6±1.3)· 10 ⁻⁴	

ArCu

p_T, GeV/c y	0.15	0.25	0.35	0.45	0.55
1.65	7.435±0.204± 0.094	4.647±0.097± 0.055	3.018±0.158± 0.113	1.500±0.081± 0.041	0.666±0.051± 0.024
1.90	5.640±0.130± 0.083	3.492±0.094± 0.056	1.613±0.120± 0.091	0.895±0.068± 0.038	0.339±0.038± 0.030
2.10	3.596±0.075± 0.031	2.258±0.068± 0.029	1.325±0.090± 0.067	0.635±0.052± 0.032	0.258±0.031± 0.021
2.30	2.545±0.050± 0.021	1.555±0.050± 0.022	0.646±0.029± 0.023	0.290±0.020± 0.014	0.0624±0.0169± 0.0082
2.50	1.906±0.034± 0.018	0.834±0.020± 0.012	0.296±0.015± 0.011	0.1032±0.0147± 0.0099	0.143±0.057± 0.028
2.70	1.0687±0.0209± 0.0096	0.387±0.015± 0.011	0.1214±0.0111± 0.0067	0.061±0.021± 0.012	0.0002±0.0042± 0.0025
2.90	0.571±0.017± 0.013	0.1496±0.0109± 0.0076	0.043±0.013± 0.011		
3.10	0.2594±0.0130± 0.0063	0.0574±0.0092± 0.0042			

ArSn

p_T, GeV/c y	0.15	0.25	0.35	0.45	0.55
1.65	9.034±0.228± 0.105	5.318±0.102± 0.058	3.105±0.128± 0.092	1.452±0.071± 0.035	0.612±0.040± 0.019
1.90	6.701±0.149± 0.095	3.929±0.098± 0.059	2.083±0.115± 0.087	0.858±0.059± 0.033	0.360±0.035± 0.028
2.10	4.438±0.083± 0.034	2.335±0.064± 0.027	1.078±0.067± 0.050	0.529±0.040± 0.024	0.174±0.025± 0.017
2.30	2.998±0.056± 0.023	1.620±0.049± 0.022	0.658±0.030± 0.023	0.272±0.019± 0.014	0.0778±0.0114± 0.0055
2.50	2.141±0.036± 0.021	0.911±0.022± 0.016	0.289±0.016± 0.011	0.1065±0.0134± 0.0065	0.0270±0.0127± 0.0052
2.70	1.247±0.023±	0.434±0.015±	0.1113±0.0105±		

	0.011	0.012	0.0063		
2.90	0.612±0.017± 0.013	0.1343±0.0092± 0.0039	0.0293±0.0080± 0.0062		
3.10	0.2570±0.0127± 0.0055	0.0925±0.0142± 0.0062			

ArPb

$p_T, \text{ GeV/c}$	0.15	0.25	0.35	0.45	0.55
y					
1.65	9.203±0.265± 0.123	5.558±0.121± 0.069	2.597±0.125± 0.090	1.272±0.078± 0.039	0.631±0.049± 0.023
1.90	7.249±0.179± 0.115	3.737±0.104± 0.062	1.828±0.105± 0.080	0.716±0.061± 0.034	0.217±0.032± 0.025
2.10	4.531±0.097± 0.040	2.020±0.069± 0.029	1.098±0.075± 0.056	0.563±0.049± 0.030	0.186±0.028± 0.019
2.30	3.018±0.063± 0.026	1.399±0.049± 0.022	0.587±0.032± 0.025	0.244±0.025± 0.018	0.089±0.023± 0.011
2.50	1.845±0.037± 0.022	0.858±0.024± 0.017	0.311±0.018± 0.012	0.1436±0.0171± 0.0083	0.0573±0.0194± 0.0079
2.70	1.185±0.025± 0.020	0.4027±0.0158± 0.0095	0.0861±0.0133± 0.0077	0.0256±0.0110± 0.0065	
2.90	0.547±0.018± 0.014	0.1327±0.0103± 0.0071	0.0482±0.0113± 0.0090		
3.10	0.2457±0.0145± 0.0063	0.0395±0.0092± 0.0057			

Table 2: (From figure 12) Rapidity (y) spectra ($d^2N/dydp_T, (\text{GeV/c})^{-1}$) of K^+ mesons produced in Ar+Al, Cu, Sn, Pb interactions at a kinetic energy of 3.2 AGeV. The results are presented for different p_T bins. The first and second uncertainties are the statistical and systematic uncertainties, respectively.

ArAl

$p_T, \text{ GeV/c}$	0.16	0.28	0.42
y			
1.15	0.0824±0.0123±0.0129	0.1015±0.0208±0.0208	0.1465±0.0365±0.0286
1.45	0.0811±0.0091±0.0085	0.1001±0.0178±0.0160	0.1783±0.0355±0.0300
1.80	0.0678±0.0053±0.0043	0.0796±0.0079±0.0065	0.0500±0.0070±0.0063

ArCu

$p_T, \text{ GeV/c}$	0.16	0.28	0.42
y			
1.15	0.1364±0.0144±0.0141	0.1390±0.0198±0.0225	0.1433±0.0284±0.0200

1.45	0.0953±0.0079±0.0067	0.1104±0.0173±0.0130	0.1391±0.0209±0.0144
1.80	0.058±0.0035±0.0032	0.0769±0.0063±0.0065	0.0685±0.0076±0.0054

ArSn

p_T , GeV/c	0.16	0.28	0.42
y			
1.15	0.1939±0.0173±0.0185	0.2118±0.0256±0.0250	0.1836±0.0271±0.0287
1.45	0.1420±0.0098±0.0088	0.1561±0.0195±0.0144	0.1686±0.0213±0.0179
1.80	0.0840±0.0046±0.0039	0.0971±0.0068±0.0063	0.0799±0.0082±0.0075

ArPb

p_T , GeV/c	0.16	0.28	0.42
y			
1.15	0.2074±0.0197±0.0153	0.1792±0.0233±0.0227	0.1944±0.0302±0.0326
1.45	0.1359±0.0102±0.0086	0.0944±0.0132±0.0100	0.1080±0.0174±0.0142
1.80	0.0843±0.0049±0.0033	0.1105±0.0084±0.0059	0.0802±0.0086±0.0076

Table 3: (From figure 13) Transverse momentum (p_T) spectra ($1/p_T \cdot d^2N/dydp_T$, (GeV/c)⁻²) of π^+ mesons produced in Ar+C, Al, Cu, Sn, Pb interactions at 3.2 AGeV. The results are given for bins of the π^+ rapidity. Only statistical uncertainties are presented. The relative systematic errors could be derived from table 1.

ArC

p_T , GeV/c	0.15	0.25	0.35	0.45	0.55
y					
1.65	13.44±0.91	5.07±0.28	2.87±0.30	0.90±0.13	0.469±0.080
1.90	11.61±0.66	4.21±0.28	1.70±0.25	1.13±0.20	0.217±0.052
2.10	10.93±0.53	3.92±0.27	1.81±0.28	0.529±0.094	0.236±0.052
2.30	9.47±0.44	2.94±0.21	0.799±0.086	0.283±0.045	0.058±0.016
2.50	7.20±0.29	1.398±0.084	0.316±0.044	0.036±0.025	0.013±0.021
2.70	4.36±0.20	0.797±0.076	0.093±0.052	0.13±0.12	
2.90	2.90±0.20	0.407±0.061	0.207±0.088		
3.10	1.38±0.15	0.206±0.051		0.005±0.017	

ArAl

p_T , GeV/c	0.15	0.25	0.35	0.45	0.55
y					
1.65	42.3±1.3	14.37±0.37	6.94±0.41	2.63±0.17	0.970±0.079
1.90	31.03±0.86	11.17±0.35	4.86±0.37	1.80±0.15	0.619±0.074

2.10	23.32±0.55	8.24±0.28	3.72±0.28	1.12±0.10	0.344±0.054
2.30	17.81±0.40	5.37±0.21	1.654±0.088	0.614±0.053	0.198±0.024
2.50	12.80±0.25	3.317±0.091	0.910±0.049	0.237±0.034	0.081±0.030
2.70	7.88±0.17	1.651±0.064	0.381±0.035	0.216±0.083	
2.90	3.91±0.13	0.455±0.045	0.086±0.040		
3.10	1.53±0.12	0.194±0.034		0.00103± 0.00057	

ArCu

$p_T, \text{ GeV}/c$ y	0.15	0.25	0.35	0.45	0.55
1.65	49.6±1.4	18.59±0.39	8.62±0.45	3.33±0.18	1.211±0.093
1.90	37.60±0.87	13.97±0.38	4.61±0.34	1.99±0.15	0.617±0.069
2.10	23.97±0.50	9.03±0.27	3.79±0.26	1.41±0.12	0.468±0.056
2.30	16.97±0.34	6.22±0.20	1.847±0.084	0.645±0.044	0.114±0.031
2.50	12.71±0.22	3.338±0.082	0.845±0.043	0.229±0.033	0.26±0.10
2.70	7.12±0.14	1.546±0.059	0.347±0.032	0.134±0.047	0.0003±0.0077
2.90	3.81±0.11	0.599±0.044	0.124±0.038		
3.10	1.729±0.087	0.230±0.037			

ArSn

$p_T, \text{ GeV}/c$ y	0.15	0.25	0.35	0.45	0.55
1.65	60.2±1.5	21.27±0.41	8.87±0.37	3.23±0.16	1.113±0.072
1.90	44.68±0.99	15.72±0.39	5.95±0.33	1.91±0.13	0.654±0.063
2.10	29.59±0.55	9.34±0.26	3.08±0.19	1.176±0.088	0.317±0.046
2.30	19.99±0.37	6.48±0.19	1.880±0.085	0.604±0.042	0.141±0.021
2.50	14.27±0.24	3.643±0.087	0.826±0.047	0.237±0.030	0.049±0.023
2.70	8.31±0.15	1.736±0.059	0.318±0.030		
2.90	4.08±0.11	0.537±0.037	0.084±0.023		
3.10	1.713±0.084	0.370±0.057			

ArPb

$p_T, \text{ GeV}/c$ y	0.15	0.25	0.35	0.45	0.55
1.65	61.4±1.8	22.23±0.49	7.42±0.36	2.83±0.17	1.148±0.089
1.90	48.3±1.2	14.95±0.42	5.22±0.30	1.59±0.14	0.394±0.057

2.10	30.21±0.65	8.08±0.28	3.14±0.21	1.25±0.11	0.339±0.050
2.30	20.12±0.42	5.60±0.20	1.679±0.092	0.541±0.055	0.163±0.042
2.50	12.30±0.25	3.431±0.095	0.890±0.050	0.319±0.038	0.104±0.035
2.70	7.90±0.17	1.611±0.063	0.246±0.038	0.057±0.024	
2.90	3.65±0.12	0.531±0.041	0.138±0.032		
3.10	1.638±0.097	0.158±0.037			

Table 4: (From figure 14) Transverse momentum (p_T) spectra ($1/p_T \cdot d^2N/dydp_T$, $(\text{GeV}/c)^{-2}$) of K^+ mesons produced in Ar+Al, Cu, Sn, Pb interactions at 3.2 AGeV. The results are given for bins of the K^+ rapidity. The first and second uncertainties are the statistical and systematic uncertainties, respectively.

ArAl

y	p_T , GeV/c	0.16	0.28	0.42
1.15		0.515±0.077±0.091	0.362±0.074±0.086	0.349±0.087±0.078
1.45		0.507±0.057±0.060	0.358±0.063±0.055	0.424±0.084±0.096
1.80		0.424±0.033±0.029	0.284±0.028±0.032	0.119±0.017±0.019

ArCu

y	p_T , GeV/c	0.16	0.28	0.42
1.15		0.853±0.090±0.108	0.496±0.071±0.082	0.341±0.068±0.075
1.45		0.596±0.050±0.047	0.394±0.062±0.054	0.331±0.050±0.041
1.80		0.361±0.022±0.026	0.275±0.023±0.024	0.163±0.018±0.018

ArSn

y	p_T , GeV/c	0.16	0.28	0.42
1.15		1.212±0.108±0.121	0.756±0.091±0.090	0.437±0.065±0.073
1.45		0.888±0.061±0.058	0.558±0.070±0.061	0.401±0.051±0.041
1.80		0.525±0.029±0.025	0.347±0.024±0.026	0.190±0.020±0.019

ArPb

y	p_T , GeV/c	0.16	0.28	0.42
1.15		1.296±0.123±0.137	0.640±0.083±0.082	0.463±0.072±0.081
1.45		0.849±0.064±0.056	0.337±0.047±0.039	0.257±0.041±0.037
1.80		0.527±0.030±0.029	0.395±0.030±0.035	0.191±0.020±0.023

Table 5: (From figure 15) Transverse momentum (p_T) spectra ($1/p_T \cdot d^2N/dydp_T$, $(\text{GeV}/c)^{-2}$) of K^+ mesons produced in Ar+C, Al, Cu, Sn, Pb interactions at 3.2 AGeV for the entire measured K^+ rapidity range ($1.0 < y < 2.0$). The first and second uncertainties are the statistical and systematic uncertainties, respectively.

System	p_T , GeV/c	0.16	0.28	0.42
ArC		0.2547±0.0491±0.0328	0.2073±0.0547±0.0362	0.0323±0.0094±0.0069
ArAl		0.4487±0.0293±0.0188	0.3399±0.0322±0.0266	0.0795±0.0103±0.0062
ArCu		0.5533±0.0297±0.0267	0.3740±0.0308±0.0280	0.0951±0.0098±0.0071
ArSn		0.7461±0.0342±0.0307	0.5301±0.0361±0.0329	0.1413±0.0119±0.0086
ArPb		0.6959±0.0348±0.0223	0.4563±0.0313±0.0259	0.1348±0.0124±0.0075

Table 6: (The fitting function is different from the one used to build figure 16: $C \cdot m_T \cdot \exp(-(m_T - m_\pi)/T_0)$) Rapidity y dependence of the inverse slope parameter T_0 (MeV) determined from the fits of the π^+ p_T spectra in Ar+C, Al, Cu, Sn, Pb interactions. The first and second uncertainties are the statistical and systematic uncertainties, respectively.

System	ArC	ArAl	ArCu	ArSn	ArPb
y					
1.65	70.4±3.1±2.7	77.82±1.46± 1.46	69.32±1.12± 1.12	78.03±0.93± 1.06	74.25±1.04± 1.01
1.90	66.3±3.1±3.6	72.15±1.29± 1.12	66.25±1.20± 1.21	69.80±0.91± 0.74	64.87±0.96± 1.04
2.10	72.0±3.2±2.8	69.74±1.24± 1.39	67.39±1.37± 1.23	62.76±0.89± 1.01	64.33±1.08± 1.27
2.30	57.5±1.7±1.8	60.46±0.87± 0.85	61.03±0.78± 0.78	60.34±0.68± 0.80	59.58±0.88± 1.01
2.50	43.1±1.4±1.5	51.73±0.76± 0.68	50.65±0.66± 0.59	50.25±0.63± 0.47	54.36±0.83± 0.69
2.70	40.8±2.1±2.4	44.99±0.89± 0.25	44.70±0.82± 0.29	44.11±0.73± 0.58	43.30±0.87± 0.32
2.90	38.0±2.9±1.6	32.53±1.40± 0.64	35.53±1.15± 1.03	35.48±1.02± 0.95	37.87±1.37± 0.67
3.10	33.7±4.1±3.7	33.62±1.50± 1.19	35.06±2.38± 2.55	42.60±3.18± 2.82	37.08±3.20± 1.30

Table 7: (The fitting function is different from the one used to build figure 17: $C \cdot m_T \cdot \exp(-(m_T - m_\pi)/T_0)$) Rapidity y dependence of the inverse slope parameter T_0 (MeV) determined from the fits of the K^+ p_T spectra in Ar+Al, Cu, Sn, Pb interactions. The first and second uncertainties are the statistical and systematic uncertainties, respectively.

y	System	ArAl	ArCu	ArSn	ArPb
1.15		77±19±20	62±9±8	87±17±19	68±17±20
1.45		80±22±21	79±16±12	87±20±16	42±7±4
1.80		114±16±12	87±10±9	92±8±7	84±8±5